

**QUARTERLY STATUS REPORT**  
**ROCKY FLATS CLEANUP AGREEMENT IMPLEMENTATION**  
**ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE**  
**SECOND QUARTER FISCAL YEAR 2002**



April 2002

DOCUMENT CLASSIFICATION  
REVIEW WAIVER PER  
CLASSIFICATION OFFICE

RFCA 2nd Quarter 2002

## **1.0 Introduction**

Pursuant to paragraphs 122 and 263 of the Rocky Flats Cleanup Agreement (RFCA or Agreement), this quarterly status report presents the progress toward implementation of activities covered under the Agreement. The RFCA is a legally binding agreement between the Department of Energy (DOE), the Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE) to accomplish required cleanup of radionuclide and hazardous substance contamination at and from the Rocky Flats Environmental Technology Site (RFETS). For the purposes of this report, the term, the Site, refers to both DOE and the Kaiser-Hill Company, L. L. C. (Kaiser-Hill).

This report describes activities that occurred from January 2002 through March 2002 (referred to as the second quarter of fiscal year [FY] 02). The sections of this report are organized into the following topics: (1) Introduction, (2) Site-wide Activities Implementing RFCA and Supporting RFETS Closure, (3) RFETS Closure Projects, (4) Water Management, and (5) List of Approved Decision Documents.

## **2.0 Site-wide Activities Implementing RFCA and Supporting RFETS Closure**

Site-wide activities implementing RFCA and supporting RFETS closure during the second quarter of FY02 included: (1) Closure Project Baseline (CPB) and Status of RFCA Milestones; (2) Integrated Monitoring Plan (IMP) Update, (3) Actinide Migration Evaluation (AME) Update, (4) Site-wide Water Balance Update, (5) Land Configuration Design Basis (LCDB) Update, and (6) Environmental Restoration (ER) RFCA Standard Operating Protocol (RSOP).

### **2.1 Closure Project Baseline and Status of RFCA Milestones (Pending #'s)**

In accordance with the RFCA earned value (EV) framework, which the RFCA Parties adopted for setting milestones pursuant to the requirements in RFCA Part 11, Subpart A, Table 1 is the current Site status on achieving the FY02 RFCA milestones. The earned value amounts and percentages have been calculated through March 24, 2002. The earned values shown below represent those reported by Kaiser-Hill, LLC and have yet to be validated by the Department of Energy, Rocky Flats Field Office.

The Site continued to accelerate decontamination and decommissioning (D&D) work efforts during the second quarter of FY02. This acceleration has been enabled by the continued improvement in safety related performance, which allows the buildings to operate without compliance related work stoppages. At the end of the second quarter of

**FY02, the major facilities are ahead of schedule in performing their decommissioning work activities**

**Table 1. Status of FY02 RFCA Milestones through the end of the Second Quarter**  
(RFTO validated amounts)

Milestone	Adjusted Carryover from FY2001 (\$)	100% EV (\$) Scheduled	50% EV (\$) Scheduled	EV Complete (includes adjusted carryover or surplus from FY2001) (\$)	Percent complete Of 50% EV (\$) Scheduled
<b>M1:50% FY02</b> Scheduled Decontamination and Decommissioning EV	\$2 890M Surplus	\$47 170M	\$23 585M - 2 890M = \$20 695M	\$35 197M	170%
<b>M2:50% FY02</b> Scheduled Low Level Waste EV	\$7 459M* Surplus	\$6 542M	\$3 271M - 7 459M = (- \$4 188M)	\$13 885M	424%
<b>M3:50% FY02</b> Scheduled Transuranic Waste EV	\$0M*	\$1 628M	\$0 814M	\$0 514M	63%
<b>M4: 50% FY02</b> Scheduled Environmental Restoration EV	\$0 183M	\$0 263M	\$0 132M	\$0 239M	181%
<b>M5 FY01 Remaining</b> EV		\$0 539M*		\$0 539M	100%

\* Actual low level waste surplus EV was \$7 999M. However, \$0 539M of this surplus FY01 earned value was applied to meet M5 FY01 remaining EV

In addition to progress in decommissioning the Site has made significant progress in transuranic waste shipments. In March the site achieved a peak shipment performance of 15 transuranic shipments in one week.

The focus during the third quarter of FY02 will be to continue to accelerate D&D of the south side (uranium buildings) and plutonium facilities, low level waste shipments and transuranic shipments.

For the period October 1, 2000 through March 24, 2002 the cumulative schedule variance reported by Kaiser-Hill for the four areas of RFCA Earned Value Milestones is:

- Decontamination and Decommissioning \$22.8 Million (51.8% ahead of plan)<sup>1</sup>
- Environmental Restoration \$44 Thousand (22.3% ahead of plan)<sup>1</sup>
- Low Level Waste Shipments \$8.0 Million (84.2% ahead of plan)<sup>1</sup>
- Transuranic Waste Shipments -\$416 Thousand (-26.9% behind plan)

<sup>1</sup> FY02 Milestone has been achieved assuming no changes to RFCA activities from DOE and regulator discussions.

These schedule variances are based upon the subset of activities coded as RFCA on the DOE approved Contract Predetermined Work Activity matrix and do not reflect any recent changes to RFCA activities that may have resulted from recent negotiations between DOE and the regulators. Finally, DOE has not yet validated the Second Quarter earned values reported above.

## **2.2 Integrated Monitoring Plan Update**

The IMP Working Group completed its discussions in October regarding changes to the 2002 IMP. Production difficulties have slowed the release of the document, which is now expected in April. No additional changes have been made in the monitoring that was agreed appropriate in the discussions leading to the presently drafted 2002 IMP.

The next IMP review cycle is expected to start in April or early May. At that time, several relatively minor changes will likely be discussed. One topic to be discussed is the need to clarify the use of the phrase "performance monitoring" in situations where in fact the monitoring is being performed as a BMP to assure stakeholders that no significant environmental releases have occurred during the execution of a demolition or remediation project. This contrasts with the phrase's more generally accepted use in the context of remedy performance. Another discussion may concern the use of gamma spectroscopy for assessment of air filters collected during demolition and remediation projects. Such spectroscopy, if adequately sensitive, would allow more rapid turn-around of monitoring results, and be more cost-effective at the same time.

## **2.3 Actinide Migration Evaluation Update**

Kaiser-Hill and DOE established an Actinide Migration Evaluation (AME) (formerly called the Actinide Migration Studies) Group to provide expert guidance and data on issues of actinide (plutonium, americium, and uranium) behavior and mobility in surface water, groundwater, air, soil, and biota environments.

The Advisors to the AME Group have been delegated to draw on the state-of-the-art understanding in the scientific community on actinide chemistry, geochemistry, hydrogeology, and biological transport and apply them to actinide migration issues at RFETS.

During the second quarter of FY02, the AME Group conducted the following activities:

- 1 Finalized the report titled "Soil Erosion and Sediment Transport Modeling of Hydrologic Scenarios for the Actinide Migration Evaluations at the Rocky Flats Environmental Technology Site". It will be distributed in April 2002.
- 2 Support was provided to the LCDB project to develop erosion and sediment transport models for three different land configuration closure scenarios. The models provide

estimates of surface water concentrations of plutonium and americium in the Walnut and Woman Creek drainage basins. Land configuration alternatives modeled included options with channel re-routing, additional wetlands and hillslope regrading. Modeling results are summarized in the LCDB Report.

- 3 Completed the Technical Appendix and the Summary Report of the Pathway Analysis Report. This report provides a quantitative discussion and ranking of the actinide environmental pathways. The Pathway Analysis Report is scheduled for release in mid-April, 2002.

The next stakeholder meeting will be held on April 30, 2002 to discuss the results of the Pathway Analysis Report.

## **2.4 Site-wide Water Balance Update**

The purpose of the Site-wide Water Balance is to develop information to support a hydrologic design basis for RFETS closure activities. The objectives of the Site-wide Water Balance are to provide RFETS with a management tool to (1) evaluate how the Site-wide hydrology is likely to change from its present configuration to the final configuration at closure, (2) assist in predicting surface water impacts from groundwater for the present and final configurations, (3) provide hydrologic profiles that guide decisions concerning the final Industrial Area configuration to protect surface water quality, and (4) provide information for the comprehensive risk assessment, and the Final Corrective Action Decision/Record of Decision.

During the second quarter of FY02, Site-wide Water Balance activities included the following:

- 1 Completed future potential site configuration scenarios and uncertainty analyses using the calibrated MIKE SHE model.
- 2 Initiated drafting the Modeling Results Report. This report is scheduled for release in May 2002.

The results of the Site-wide Water Balance will be presented in a meeting with the regulators and stakeholders on May 30, 2002.

## **2.5 Land Configuration Design Basis Update**

The purpose of the LCDB Project is to define the design basis upon which a final land configuration can be developed. In conjunction with identifying the functional design objectives and developing the design basis, three bounding scenarios were identified to represent relative extremes of distinct and unique approaches. These bounding scenarios represent a reasonable range of viable approaches and allow for evaluation of individual

components of the condition. The bounding scenarios were modeled and subsequently evaluated by the AME Project. Output from these evaluations in conjunction with the preliminary report will be used in future construction of an initial conceptual design.

During the first quarter of FY02, the scope for this phase of the project was modified. The data summaries and appendices under development were finalized and an initial Grading and Drainage Plan was developed for the Industrial Area. This Plan will be used as a discussion point and to help guide immediate D&D and ER interim decisions.

An interim project report was completed during the second quarter of FY02. *The Land Configuration Design Basis-Preliminary* (March 2002) contains the revised project work plan and interim work products including the design basis, evaluations of the potential bounding scenarios, a pond reconfiguration strategy, an IA grading and drainage plan, the initial conceptual design, and remaining data gaps that must be filled prior to finalization of the conceptual design and conceptual design report.

## **2.6 Environmental Restoration RFCA Standard Operating Protocol**

The ER RSOP describes routine soil remediation activities at individual hazardous substance sites (IHSSs), potential areas of contamination (PACs), and under building contamination (UBC) Sites. The CDPHE approved the Draft Final ER RSOP on January 11, 2002 contingent upon receiving a Final document incorporating the changes that were agreed to during a resolution meeting on December 20, 2001. The Final ER RSOP was transmitted to DOE for submittal to CDPHE and EPA on January 23, 2002. A condition of CDPHE's approval is that remedial work conducted under the RSOP will comply with pending revised radionuclide soil action levels. While project work can continue, it is at the Site's own risk. That is, if the revised soil action levels are lower than the Site's cleanup action, additional cleanup may be required.

Following approval of the ER RSOP by CDPHE, EPA approved the document on March 15, 2002 for use in the Buffer Zone. EPA's approval carried the following conditions:

1. Until radionuclide soil action levels are revised, DOE will consult with the agencies to determine specific remedial action objectives and, the specific objectives will be incorporated in the RSOP Notification.
2. EPA will release the Notification for a 30-day public review that will include the request that the public "submit comments on how the ER RSOP relates to the given remedial objectives."

## **3.0 RFETS Closure Projects**

RFETS Closure activities conducted during the second quarter of FY02 include: (1) Industrial Area Operable Unit, Building (B) 771; (2) Industrial Area Operable Unit,

B776/777, (3) Industrial Area Operable Unit, B371/374, (4) Industrial Area Operable Unit, B707, and (5) Remediation, Industrial & Site Services Project (RISS)

### **3.1 Industrial Area Operable Unit, Building 771 Closure Project**

The B771 Closure Project Decommissioning Operations Plan (DOP) was approved by CDPHE on January 11, 1999. During the second quarter of FY02, the B771 Closure Project Team conducted the following activities:

- 1 Completed two D&D work sets, i.e., Sets 36 and 94
- 2 Successfully decontaminated seven gloveboxes and seven tanks to surface contaminated object (SCO) levels using Cernum Nitrate. As a result, the tanks and gloveboxes were disposed of whole as low-level waste in cargoes.
- 3 Prepared for operation the third inner tent chamber for component size reduction in room 149.
- 4 Completed decontamination of 3 out of 4 stages of Plenum FU-1E.

### **3.2 Industrial Area Operable Unit, Building 776/777 Closure Project**

The B776/777 Closure Project DOP was approved by CDPHE on November 5, 1999. As of December 31, 2001, seven minor modifications to the DOP have been approved. During the second quarter of FY02, the B776/777 Closure Project Team conducted the following activities:

- 1 Completed ten D&D work sets bringing the total to 55 sets completed to date. There are a total of eighty-four work sets in the 776/777 Project. The 10 sets completed this quarter were Sets 6, 9, 11, 13, 22, 25, 36, 73, 41, and 56. This quarter's sets included the removal of 45 glovebox sections bringing the total to 218 glovebox sections removed during the lifecycle of this project. This leaves 61 glovebox sections remaining in the building.
- 2 Closed by removal six RCRA mixed residue vacuum accumulator tanks (V-543, V-746, V-747, V-747A, V-748, and V-749).
- 3 Re-submitted minor modification #8 to the B776/777 DOP to DOE on February 28, 2002. This modification was originally submitted to DOE on December 12, 2001. Through the consultative process, CDPHE agreed to extend the Mixed Residue Consent Order tank milestone for B776/777 from December 31, 2002 to February 2005. As a result, the project is withdrawing the request to terminate the Mixed Residue Consent Order as originally proposed in Modification #8. The project is also

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withdrawing the request to transfer management of the process waste tanks from the Resource Conservation and Recovery Act (RCRA) permit to the DOP, and will continue to manage the tanks under the permit. This modification now includes submittal of unit-specific closure information sheets for the remaining mixed residue systems, overhead RCRA piping, process waste tanks, pilot and production fluidized bed incinerators, and supercompactor.

- 4 Submitted a draft Demolition Plan for B776/777 to DOE and CDPHE on February 28, 2002 for comment. This Demolition Plan will be submitted as a major modification (Mod #9) to the B776/777 DOP. Preliminary comments were received from DOE and CDPHE on March 20 and 21, 2002.

Activities planned for the third quarter include working on the D&D of Sets 19, 51, 71 and 4.

### **3.3 Industrial Area Operable Unit, Building 371/374 Closure Project**

During the second quarter of FY02, the B371/374 Closure Project Team conducted the following activities:

- 1 Removed Raschig ring in Set 4 (Room 3571) and Set 3 (Room 3517). The new vacuum system was successfully used in these Sets. Tank isolation is complete in Set 13 (Room 2317).
- 2 Initiated Dismantlement of Sets 7 (Room 3305) and Set 14 (Room 2325).
- 3 Completed Dismantlement of Set 36 (Room 3709).
- 4 Placed the following RCRA tanks in B374 into RCRA stable status: Tanks D807A, D807B, D808, D813, D814, D815, D816, D825A, D825B, D844A, D844B, D848, D883A, and D883B.

Activities planned for the third quarter of FY02 include: Raschig Ring removal will occur in Set 13 and Set 15, initiation of strip-out of Area AM, and the "hot" test for the cerium decontamination system if this is determined necessary to ensure the tanks/gloveboxes meet the SCO criteria. In addition, strip-out of electrical, mechanical, and glovebox systems in Set 14 and Set 7 will continue.

### **3.4 Industrial Area Operable Unit, Building 707 Closure Project**

During the second quarter of FY02, the B707 Closure Project Team conducted the following activities:

1. Completed eight sets, i.e., sets D2, D3, E2, E3, A6, H1, O1 (2<sup>nd</sup> floor), and 17 (2<sup>nd</sup> floor) This included removal of approximately 40 glove box/chainveyor sections, autoclave vault doors, a large isostatic press (Harwood Press), and a number of pumps, tanks, compressors, and Kathabar units from the second floor This brings the total sets completed to date to 17 of 99 sets
2. Removed approximately 1,600 cubic meters of transuranic and low level mixed waste from B707 last quarter A total of near 5,000 cubic meters have been removed since January 2001
3. Minor Modification #2 to the B707 DOP was approved by CDPHE on January 10, 2002, with the exception of item 9, which requested removal of the requirement for an independent Colorado-registered professional engineer to certify closure of RCRA units CDPHE stated that they felt this requirement is substantive Approved portions of the modification request included updated set descriptions, updates to provide consistency with the B776/777 DOP, termination of the Idle Equipment Consent Order, and other minor edits and corrections.

Activities planned for the third quarter include completion of sets G1, G2, A2, D5, C3, F3, F5, and 16 (2<sup>nd</sup> floor) In addition, work in progress is expected on other sets in Modules A, B, C, D, & E and continued abatement and strip out of asbestos containing materials throughout the building

### **3.5 Remediation, Industrial & Site Services Project**

RISS activities supporting RFETS closure during the second quarter of FY02 include D&D as well as ER

#### **3.5.1 Decontamination and Decommissioning**

During the second quarter of FY02, the following activities were completed

1. Progress in the B886 Decommissioning Project included
  - Completion of asbestos abatement
  - Removal of contaminated paint throughout the facility using high-pressure water (hydrolasing) technology
  - Removal of the contaminated roof from room 103
  - Demolition of the north half of B886
  - Completion of core drilling of the Room 101 walls for harmonic de-lamination
  - Demolition of trailer T886C
  - Submittal of the Pre-Demolition Survey Report (PDSR) was submitted to the DOE and CDPHE for approval

- 2 Loose property removal and hazard stabilization continued in B883 with the current percentage for completion at 40% This work is scheduled for completion by the third quarter of FY02
- 3 A contract award was made to the Environmental Chemical Corporation (ECC) for B865 decommissioning ECC has mobilized and dismantlement activities initiated
- 4 Reconnaissance characterization for all Area 1 facilities has been initiated Characterization activities have been initiated in Areas 2 and 3 including B991 and B444 Table 2 is a summary of RISS D&D characterization activities

**Table 2. Summary of RISS D&D Characterization Activities**

Facility	Comments
428, 663, 666, 884	Reconnaissance Level Characterization Report (RLCR) writing in progress Kaiser-Hill anticipates submittal to DOE and CDPHE during the 3 <sup>rd</sup> quarter of FY02
880, T891B, T891D, T891F, T893A, T893B, T900E, T904A, T891E	Prep work in progress, Kaiser-Hill anticipates submittal to DOE during the 3 <sup>rd</sup> quarter of FY02
886 Cluster	Phase 1 PDSR – CDPHE concurrence for T886A, 888 and 888A, received 10/12/01 Phase 2 PDSR including 875, 880, and 888A anticipated to be submitted to DOE and CDPHE during the 3 <sup>rd</sup> quarter of FY02
902 and 904 pads, tents 7-11	CDHPE concurred on the RLCR for the 902 and 904 pads and tents 7-9 on 1/31/02 CDPHE concurred on the RLCR for tents 10 and 11 on 5/25/01

### 3.5.2 Environmental Restoration

ER activities implementing RFCA and supporting closure during the second quarter of FY02 included (1) Buffer Zone (BZ) Operable Unit (OU), Group 900-11, (2) Plume Maintenance and Monitoring, (3) OU 1, (4) Group 000-5 Present Landfill, Group 000-1 Solar Ponds, and Group SW-2 Original Landfill Cap, (5) Group 100-4 UBC 123, Group 100-5 Security Incinerator Pad, and (5) Industrial Area (IA) Characterization

#### 3.5.2.1 Buffer Zone Operable Unit, Group 900-11 (903 Pad)

A closure strategy similar to the IA Strategy will be implemented for the closure of the BZ OU and OUs 5, 6, 7 which reside geographically in the BZ of the RFETS The BZ closure strategy integrates characterization and remediation of BZ IHSSs and PACs

The first action of the BZ closure strategy was to develop a Buffer Zone Data Summary Report that accumulates all existing analytical data available in the Soil Water Database

for all sample locations outside the Industrial Area OU. These data were evaluated for usability and those data that passed the data quality filters will be utilized to provide starting point characterization data for individual IHSS'. A draft of the Buffer Zone Data Summary Report was presented to the regulators for review in July 2001

DQOs to support characterization requirements are outlined in the BZSAP. The BZSAP is the sampling plan to gather analytical data from IHSSs and PACs in the BZ for future decision-making purposes. These data will be evaluated to determine whether no further action (NFA), additional characterization, or remedial/management action is required. The plan was written to enable analytical results from samples collected outside of IHSSs and PACs (white space) to be used for the CRA that evaluates residual risk following completion of all accelerated actions. The BZSAP sampling requirements contain the final site characterization requirements for the RFETS BZ. A draft of the BZSAP was presented to the regulators for review and delivered to Rocky Flats Reading Rooms in July 2001. Comments were received from the regulators in October, and following revisions to the draft to address the comments, the Draft Final BZSAP was transmitted to the agencies for review in January 2002.

EPA as well as CDPHE expressed concern over two provisions in the Draft Final BZSAP: the hot spot methodology and averaging sample data over an area of concern. Subsequent to a meeting with the agencies on February 26, 2002, EPA approved the BZSAP and Group 900-2 of the BZSAP Addendum 02-01. However, approval excluded use of a hot spot methodology and data averaging. These two issues will require discussion and resolution in the near future.

BZSAP addenda will be prepared for each IHSS, IHSS group or PAC which provides background information of the IHSS or PAC, sampling requirements to meet the BZSAP's DQO's, and analytical data currently available and usable to support the identified sampling requirements. Each BZSAP addendum will define the study area and optimize the sampling design for the IHSS or PAC to meet the DQO's identified in the BZSAP. The draft BZSAP FY02 addendum was submitted in December for review. Comments were received in late March and are scheduled to be resolved at a meeting on April 3, 2002.

A surface water monitoring network designed to establish baseline (pre-remediation) water quality for surface waters draining from the 903 Pad and Lip Areas was installed in FY01. A total of seven surface water sampling stations, two existing and five new stations, comprise the monitoring network. Twelve surface water samples have been collected since initiation of the monitoring program. Due to low flow conditions no surface water samples were collected last quarter.

### **3.5.2.2 Plume Maintenance and Monitoring**

Operation, maintenance and monitoring continue for the three reactive barriers and two other plume treatment systems at Rocky Flats. The reactive barriers are the Mound Site Plume, East Trenches Plume and Solar Ponds Plume groundwater collection and treatment systems. The other two plume systems collect and treat groundwater at OU1 – 881 Hillside and at the OU 7 – Present Landfill Seep.

The activities and performance monitoring data for the five systems are provided in the Quarterly and Annual Reports for the Rocky Flats Groundwater Plume Treatment Systems. The Quarterly Report was completed March 28, 2002 and contains information on the Solar Ponds Plume Treatment System and the status of the Property Utilization & Disposal Yard Treatability Study. The status of the remaining plume treatment systems was reported in the Annual Report for the Groundwater Plume Treatment System that was completed March 27, 2002.

### **3.5.2.3 OU1**

The DOE and EPA signed the final Modification to the OU1 CAD/ROD in January 2001. Because soil removal was not necessary, the modified remedy deleted the requirement to remove soil and included pumping and treating groundwater from the OU1 Collection Well for a period of one year after signing the final Modification, and continued groundwater monitoring at IHSS 119-1 consistent with the RFETS IMP. No other activities were performed during the first quarter of FY02.

The first quarter was evaluated and reported in the Quarterly and Annual Plume Treatment reports (see Section 3.5.2.2). The Collection Well monitoring data continued to be below the Action Levels and Standards Framework Tier 1 action levels and pumping and treating of groundwater will be discontinued. The Collection Well will be designated as a Plume Definition Well and initially monitored quarterly, consistent with the IMP.

### **3.5.2.4 Group 000-5 (Present Landfill), Group 000-1 Solar Ponds, and Group SW-2 Original Landfill Cap**

This project involves the modeling and conceptual design of a proposed evapotranspiration cover for the Present Landfill. A draft conceptual design report (CDR) was developed and submitted to Kaiser-Hill for review and comment, a revised CDR will be available for the regulators in the third quarter of FY02. A draft Interim Measure/Interim Remedial Action (IM/IRA) Decision Document and scope of work for subcontractor services are being developed in parallel with the CDR effort.

The Solar Evaporation Ponds project team is proceeding forward with the development of an IM/IRA Decision Document, which includes an analysis of the risk-based closure of the RCRA unit. Recent work has been analyzing the existing data and invoking Remedial Action Decision Management System process on the data analysis

The Original Landfill project team is proceeding forward to develop an IM/IRA Decision Document, which includes an analysis of five potential remedial alternatives for the Original Landfill. Recent work has been analyzing the existing data and invoking Remedial Action Decision Management System process on the data analysis for each alternative

### **3.5.2.5 Industrial Area Characterization**

IASAP Addenda for FY02 were prepared to describe soil-sampling locations in IHSSs, PACs, and UBC sites. Addendum #IA-02-01 includes sampling and analysis specifications for IHSS Groups 100-4, 100-5, 300-1, 300-6, 400-10, 500-6, 500-7, 600-1, 600-6, 700-12, and 800-6. Addendum #IA-02-02 includes sampling and analysis specifications for IHSS Group 900-4&5. The IASAP Addenda contain maps of existing sampling locations and data, where available, and proposed new sampling locations. Addendum #IA-02-01 was approved by CDPHE and EPA with modifications in November 2, 2001. The regulatory agencies did not respond to Addendum #IA-02-02 within the 14-day period and it was therefore considered approved. Addendum #IA-02-03 (IHSS Group 800-4) was approved on March 26, 2002.

CDPHE and EPA provided a partial response to the Draft Comprehensive Risk Assessment Methodology. The response included opening the discussion on the size of the exposure units for the Comprehensive Risk Assessment. These discussions are ongoing.

## **4.0 Water Management**

Water management activities during the second quarter of FY02 are summarized by: (1) Watershed Improvements, (2) Surface Water Management, (3) Surface Water Monitoring, (4) Groundwater Monitoring, and (5) the Rocky Flats Water Working Group.

### **4.1 Watershed Improvements**

The Spill Prevention, Control and Countermeasures (SPCC) Plan, Revision 1 was completed and became effective March 31, 2002. The SPCC Plan documents existing plans and programs that prevent or minimize the potential for significant releases of oil from the RFETS to water of the United States. Inspections of the outdoor oil tank locations were also conducted to determine tank/equipment integrity and labeling, adequacy and effectiveness of secondary containment and drainage routes.

Given winter conditions, no repair or maintenance was conducted on RFETS culverts and drainages during the second quarter of FY02. Drawing updates and field walkdowns of previously identified culverts and structures needing maintenance are on going to determine repair priorities for FY02.

#### 4.2 Surface Water Management

During the second quarter of FY02, the Site completed the following pond water transfers and discharges totaling 23.91 Million Gallons (MG), a decrease of 3% compared to the second quarter of FY01 (24.60 MG).

Pond A-3 activity included one routine outlet-valve direct discharge to Pond A-4 totaling 3.43 MG. This discharge occurred during the period of March 11 through 14, 2002.

Pond B-5 activity included two routine outlet-valve direct discharges to South Walnut Creek totaling 20.48 MG. The first discharge of 9.81 MG occurred during the period of January 24 through February 4, 2002. The second discharge of 10.67 MG occurred during the period of March 21 through April 2, 2002. Water-quality samples were collected and analyzed, and all approvals were obtained prior to the discharges. The City of Broomfield diverted the Pond B-5 discharges around Great Western Reservoir via the Broomfield Diversion Ditch.

There were no Pond A-1, A-2, A-4, B-1, B-2, C-2, or Landfill Pond transfers or discharges during the second quarter of FY02.

Transfers and discharges from the RFETS ponds during the second quarter of FY02 are summarized in Table 3.

**Table 3. Site Pond Water Transfers and Discharges - Second Quarter FY02**

<b>Dates</b>	<b>Pond Activity</b>	<b>Total MG</b>	<b>Mode</b>
1/24 to 2/4	B-5 to SWC	9.81	Outlet-valve direct discharge
3/11 to 3/14	A-3 to A-4	3.43	Outlet-valve direct discharge
3/21 to 4/2	B-5 to SWC	10.67	Outlet-valve direct discharge
	<b>Total for Quarter</b>	<b>23.91 MG</b>	

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### **4.3 Surface Water Monitoring**

During the second quarter of FY02, 45 composite samples were collected by the RFCA automated monitoring system and submitted for analysis. This represents a 20% reduction in sampling activity when compared to the average activity (average of 56 samples) for the same period during the prior four years of RFCA sampling (Q2FY01: 51 samples, Q2FY00: 60 samples, Q2FY99: 49 samples, Q2FY98: 62 samples). Only the first quarter of FY97 had fewer composite samples (23 samples) collected and analyzed.

During the second quarter of FY02, the 30-day moving averages for all RFCA Point of Evaluation and Point of Compliance monitoring locations were below the RFCA action levels and standards for all monitored metals and radionuclides.

During the second quarter of FY02, three new surface water performance-monitoring stations (GS28, GS57, and GS58) were installed and started collecting samples. Monitoring data from these locations will be used to develop water quality baselines for D&D and remediation projects. GS28 provides coverage for the area north of B883 and B865. GS57 provides coverage of the sub-drainage basin that flows northeast of the 400 Area. GS58 provides coverage for the sub-drainage and paved areas north of B886/865.

Also during the second quarter of FY02, monitoring equipment was staged for installation of a fourth new location (GS55). GS55 will provide performance-monitoring coverage for the sub-drainage basin south of B881.

Finally, work-planning documentation (i.e., environmental checklists) for three more surface water performance-monitoring stations (SW036, GS59, and GS56) was prepared and submitted for approval. SW036 and GS59 will provide monitoring coverage for the Legacy Landfill in the South Interceptor Ditch and Woman Creek respectively. GS56 will provide coverage downstream of the existing Landfill Pond in No Name Creek.

### **4.4 Ground Water Monitoring**

The Third (calendar) Quarter 2001 groundwater monitoring report was presented to the Stakeholders at the Quarterly Information Exchange Meeting on February 26, 2002.

Other activities completed during the second quarter of FY02 included:

1. Fourteen wells supporting the Industrial Area Plume Evaluation were installed.
2. All groundwater samples and water level measurements for the first semester of FY02 were completed on March 28, 2002.



- 3 The Well Abandonment and Replacement Program Work Plan was initiated to identify wells needing abandonment at the RFETS
- 4 A project to identify groundwater data missing from the 1996-1998 timeframe that was not entered into the SWD database was completed

#### **4.5 Rocky Flats Water Working Group**

The RFETS Water Working Group followed the Quarterly Exchange of Information Meeting held on February 26, 2001. The following items were included in the agenda:

- 1 Update by Kaiser-Hill on the Site-wide Water Balance. The final report is scheduled for completion in late May 2002.
- 2 Introduction of DOE's Prototype Decision Support system developed by staff from Colorado State University.
- 3 Status of installation of Industrial Area Plume Wells.
- 4 Status on the delay of replacement flumes at GS03, GS10, and SW093 as a result of continued discussions with US Fish and Wildlife Service.

The next Water Working Group will be held on May 28, 2002, directly following the Quarterly Exchange of Information meeting.

#### **5.0 List of Approved Decision Documents**

This list of approved decision documents provides the information for the update to RFCA Attachment 12.

- 1 Minor Modification #8 to the B776/777 DOP was re-submitted to DOE on February 28, 2002. This modification was originally submitted to DOE on December 12, 2001. Through the consultative process, CDPHE agreed to extend the Mixed Residue Consent Order tank milestone for B776/777 from December 31, 2002 to February 2005. As a result, the project is withdrawing the request to terminate the Mixed Residue Consent Order as originally proposed in Modification #8. The project is also withdrawing the request to transfer management of the process waste tanks from the RCRA permit to the DOP, and will continue to manage the tanks under the permit. This modification now includes submittal of unit-specific closure information sheets for the remaining mixed residue systems, overhead RCRA piping, process waste tanks, pilot and production fluidized bed incinerators, and supercompactor.

- 2 Minor Modification #2 to the B707 DOP was approved by CDPHE on January 10, 2002, with the exception of item 9, which requested removal of the requirement for an independent Colorado-registered professional engineer to certify closure of RCRA units. The CDPHE stated that they felt this requirement is substantive. Approved portions of the modification request included updated set descriptions, updates to provide consistency with the B776/777 DOP, termination of the Idle Equipment Consent Order, and other minor edits and corrections.
- 3 Submitted a draft Demolition Plan for B776/777 to DOE and CDPHE on February 28, 2002 for comment. This Demolition Plan will be submitted as a major modification (Mod #9) to the B776/777 DOP. Preliminary comments were received from DOE and CDPHE on March 20 and 21, 2002.
- 4 EPA approved the Buffer Zone Sampling and Analysis Plan on March 13, 2002.
- 5 EPA approved Group 900-2 of the BZSAP Addendum 02-01 on March 13, 2002.
- 6 CDPHE approved IASAP Addendum 02-02 (includes Groups 900-4 & 5) on February 6, 2002.
- 7 CDPHE approved IASAP Addendum 02-03 (includes Group 800-4) on March 26, 2002.
- 8 The ER RSOP was approved by CDPHE on January 11, 2002 and by EPA on March 15, 2002.
- 9 CDPHE approved ER RSOP Notification 02-01 (includes Groups 100-4 and 100-5) on January 16, 2002.
- 10 CDPHE approved ER Notification 02-02 (includes Group 800-6) on March 15, 2002.
- 11 CDPHE approved ER Notification 02-03 (includes Group 800-4) on March 26, 2002.

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